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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/066,340	01/31/2002	Roger Stettner	1900/017	9833
22440	7590	12/14/2004	EXAMINER	
GOTTLIEB RACKMAN & REISMAN PC 270 MADISON AVENUE 8TH FLOOR NEW YORK, NY 100160601			TANG, SON M	
			ART UNIT	PAPER NUMBER
			2632	

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/066,340

Applicant(s)

STETTNER, ROGER

Examiner

Son M Tang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-59 is/are rejected.
- 7) ☒ Claim(s) 3-17, 24, 25, 30, 35-37, 40-42, 44, 46, 47, 49, 51-53, 57 and 59 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 3-17, 24-25, 30, 35-37, 40-42, 44, 46-47, 49, 51-53, 57 and 59 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only, and, cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.
2. Claims 3, 54 objected to because of the following informalities: "the said" in line 8 and 10. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 1 recites the limitation "the operator " in line 1 and "the drive" in line 13, claim 3 recites the limitation "the power" in line 5, and "the emission" in line 7, and in claim 54 recites the limitation "said storage" in line 12. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-38, 44, 48-50 and 54-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed et al. [US 2002/0005778] in view of Leonard et al. [US 6,137,566].

Regarding to claim 1: Breed et al. disclose a device for warning an operator of a stationary or moving vehicle of potential collisions with objects in his physical environment comprising: a laser radar includes transmitter and receiver for collecting reflected electromagnetic signals from said objects and developing three-dimension object data, which indicative of potential collisions [as cited in Fig. 1, 13A-13C, 16, entire spec. and specifically ¶ 0128, 0134, 0137 and 0161], includes, drivers, signal conditioners and signal generators [¶ 0161], except for specifically disclosing a drive electronics means for controlling the timing and biasing of said signal transmitter, receiver and output, it is known in the art that, the drive electronics is for manipulating the time and frequency of transmitter/receiver in radar system, Leonard et al. teaches a method and apparatus for signal processing in a laser radar receiver comprising a drive electronics (clock 30) in conjunction with processor (32) for controlling the pulsed laser transmitter 34 and receiver 22 [as shown in Fig. 3, col. 6, lines 37-48]. It would have been obvious of one having ordinary skill in the art at the time of the claimed invention to use, the drive electronics for controlling the transmitter/receiver as taught by Leonard et al. into the radar system of Breed et al. for the purpose of precisely detector.

Regarding to claim 2: Breed et al. further disclose the electromagnetic signal is a laser pulse [cited in ¶ 0131].

Regarding to claim 3: Breed et al. and Leonard et al. made it obvious in claim 1, Breed et al. further discloses one or plurality laser pulses (cited ¶ 0170), optics means (optical

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waves/energy ¶ 0134) and laser detector (laser receiver 110-114), Breed et al. does not specific about the information signal received and transferring to the drive electronics, Leonard et al. teaches a drive electronics as described in claim 1 above.

Regarding to claims 4, 52-53: Breed et al. and Leonard et al. made of obvious in claim 1, Leonard et al. further stated a well known conventional laser radar device, which included an optics means (photodetector array 6) for collecting said reflected laser light concentrating the laser light on sensor means 40 and unit cell electronics means (20) for converting electromagnetic signal to electrical and provides 2-dimensional information about the object included the arrival time of reflected signal from the objects [as cited in Fig. 1, col. 1, lines 24-34], Leonard et al. further teaches that unit cell (20) sequentially integrating and storing the current input to the unit cell from the detector, and converting the current input from the detector to a time dependent voltage and storing this voltage [Fig. 2, col. 6, lines 6-25, col. 7, lines 1-35].

Regarding to claim 5: Breed et al. and Leonard et al. made of obvious in claim 1, Leonard et al. further teach the detector 22 includes an amplifier 47 [Fig. 2, col. 6, line 15].

Regarding to claim 6: Breed et al. and Leonard et al. made of obvious in claim 1, Leonard et al. further teach the amplifier means is a microchannel plate [col. 4, line 64].

Regarding to claims 7, 10 and 51: Breed et al. and Leonard et al. made of obvious in claim 1, Leonard et al. further teach that the sensor 40 includes amplifier which also uses a solid state array [as shown in Fig. 10-11].

Regarding to claim 8: Breed et al. and Leonard et al. made of obvious in claim 1, Leonard et al. further teach that the sensor 40 includes detector means 22.

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Regarding to claim 9: Breed et al. and Leonard et al. made of obvious in claim 1, Leonard et al. further teach that detector 22 is a photocathode (multi-anode) [col. 4, line 63].

Regarding to claim 11: Breed et al. and Leonard et al. made of obvious in claim 1, Leonard et al. further teach the readout integrated circuit means (20 and 28a-28c) see Fig. 2. wherein the output of unit cell 22 and circuits 24 are connected.

Regarding to claim 12: Leonard et al. further teach the integrated circuit means 20 includes an array of unit cell circuits 22 [see Fig. 2-3].

Regarding to claim 13: Refer to the consideration of claim 4 above.

Regarding to claim 14: Leonard et al. further teach that the flight time of a laser pulse to a portion of an object and back to the device includes a digital range counter [see col. 7, lines 1-22].

Regarding to claims 15-17: Breed et al. and Leonard et al. made obvious of the claim above, they are not specifically teaching that the circuit device for developing data indicative of the flight time of a laser pulse to/from object includes a pulse shape sampling, Schmitt trigger and transimpedance amplifier circuitry, since those circuitries are known in electronic art. It would have been an obvious matter of design choice to apply any known electronic device such as pulse shape sampling, Schmitt trigger and Transimpedance amplifier for performing the same function, since applicant has not disclosed that those known devices solve any stated problem or is for any particular purpose and it appears that the invention would perform equally well with other device that available at the time the invention was made.

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Regarding to claims 18-20: Breed et al. and Leonard et al. made obvious in claim 1, Breed et al. further disclose the flat panel display, verbal commands and alarm [as shown in Fig. 101-12, ¶ 0220-0222].

Regarding to claims 21- 22: Breed et al. and Leonard et al. made of obvious in claim 1, they are not specify that the output electronics includes gain and offset correction circuitry, however, Leonard et al. using amplifier 47, filter 49 in conjunction with multiple comparators 24a-24e and shift registers 28a-28e for analyzing output data [Fig. 2, col. 6, lines 6-26]. One having ordinary skill in the art would have found it obvious that implement the amplifier, filter, comparators and shift registers and comparators for correcting the signal, therefore, the system should be able to convert the received signal from analog to digital, gain and offset correction for accurate signal.

Regarding to claims 23-32: Breed et al. and Leonard et al. made of obvious in claim 1, Breed et al. further use digital computer includes computation software to determine the range (distance) and collision avoidance decisions [see Fig. 10, 16 and ¶ 0241], Breed et al. does not specify the time of impact in the system, however, it is clear that the distance calculation is derived from time and speed data, therefore one having ordinary skill in the art would found it obvious that the time of impact can be determined from the distance calculation as well.

Regarding to claim 33: Breed et al. and Leonard et al. made of obvious in claim 1, Leonard et al. further teach that the drive electronics includes a master clock [30].

Regarding to claims 34-36, 38: Breed et al. and Leonard et al. made of obvious in claim 1, Breed et al. further disclose that the environmental sensor system [Fig. 10 and 16], for

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obtaining parameters relevant to collision avoidance, precipitation monitor and vehicle speed [see ¶ 0109 and 0134].

Regarding to claim 37: Breed et al. and Leonard et al. made of obvious in claim 1, except for specifically teaching that the environmental sensor system includes a coefficient of friction indicator, since the system is being able to determine the relative velocity and distance of an object to the vehicle, time traveling and size of the object [as cited ¶ 0117]. It would have been obvious of one having ordinary skill in the art at the time the invention was made to recognize that, the force of contact such as the coefficient of friction could be determined by the system base on the information above.

Regarding to claim 44: Breed et al. and Leonard et al. made of obvious in claim 1, Breed et al. further disclose an operator interface means that includes a flat panel display 145.

Regarding to claim 48: Breed et al. further disclose the electromagnetic signal is a continuous laser [¶ 0131].

Regarding to claims 49-50: Breed et al. and Leonard et al. made of obvious in claim 1, except for specific stating that the electromagnetic signal is a Doppler-shifted laser or microwave signal, however, Breed et al. had stated that Doppler-shifted laser and microwave signal are known in the prior art of radar systems. Therefore, it would have been an obvious matter of design choice to use any known frequency type such as Dopple-shifted or microwave for the same function in radar system.

Regarding to claims 54-59: The claimed method steps are interpreted and rejected as rejection stated above.

7. Claims 39-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed et al. and Leonard et al. further in view of Lotito et al. [US 6,129,168].

Regarding to claims 39-42: Breed et al. and Leonard et al. made of obvious in claim 1, except for specifically stating that the system includes a passenger sensor, Lotito et al. teaches a passenger sensor is a weight sensor in conjunction with the crash management system, that obtaining passenger parameters for collision damage minimization and activation of passenger protection devices [as cited in Fig. 1 and col. 1, lines 12-40]. It would have been obvious of one having ordinary skill in the art at the time of the claimed invention, to use passenger sensor in conjunction with the collision avoidance (management) system as taught by Lotito et al. in the combination of Breed et al and Leonard et al. for the benefit of safety, that the safety restraint system is activate when detected by the weight sensor.

8. Claims 43, 45-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Breed et al. and Leonard et al. further in view of Camhi et al. [US 5,430,432].

Regarding to claims 43 and 45: Breed et al. and Leonard et al. made of obvious in claim 1, except for specifically stating that, the operator interface for inputting information into the data processor. Camhi et al. teaches an automotive warning and recording system comprises, an operator interface [36,30] for inputting information into the data processor [as shown in Fig. 3, col. 5, lines 60-68]. It would have been obvious of one having ordinary skill in the art at the time of the claimed invention to have an interface for inputting information into the processor as taught by Camhi et al. in the system of combination above, in doing that, the driver being able to store or retrieve information in/out the database.

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Regarding to claims 46-47: Breed et al. and Leonard et al. made of obvious in claim 45, except for that the database includes vehicle identification parameters and maneuverability parameters which used by the object recognition and collision-avoidance software. Camhi et al. teaches that variety of unsafe vehicle operating conditions are being programmed and stored in the ROM 32 [see col. 6, lines 5-15], since each pre-programmed unsafe vehicle operating conditions in the database, and in order to monitor when the condition is occurred, each condition should contain an unique identification. Therefore, it would have been obvious of one having ordinary skill in the art at the time of the claimed invention, to recognize that the vehicle identification parameters are the unsafe conditions identification that taught by Camhi et al.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stettner et al. [US 5,446,529], Urbach [US 5,835,204], Allen et al. [US 6,392,747], Rappaport et al. [US 6,002,423], Shaw et al. [US 5,529,138], Taylor [US 5,249,157], Breed et al. [US 6,370,475] and Shunman et al. [US 6,353,785].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son M Tang whose telephone number is (571)272-2962. The examiner can normally be reached on 4/9 First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J Wu can be reached on (571)272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Son Tang


BENJAMIN C. LEE
PRIMARY EXAMINER